38 The methods of Claim 28 wherein said presentation is for use in the teaching of said transformation rules.

39 The methods of Claim 29 wherein said presentation is for use in the teaching of said transformation rules.

40 The methods of Claim 30 wherein said presentation is for use in the teaching of said transformation rules.

Remarks - General

Applicant requests the modification of claim 21 deleting the "means" part of claim 21, thereby overcoming examiner's objection under paragraph 35 U.S.C. 112.

Claim rejections under USC 103

Applicant requests consideration of the following responses to each claim objection in the office action:

1 Claims 21-23, 26-27, 21-22, and 36-37 were rejected under 35 U.S.C. 103(a) as being unpatentable by Nakayama et al in view of Foley et al.

Nakayama teaches step-by-step presentations of equation solving, whereas Foley teaches the general art of animation as part of computer graphics. The animation of equations, on the other hand, was not envisioned by either of these authors. Additionally, animations using intermediate representations where said "intermediate representations need not be governed by said rules" (Claim 21) was also not envisioned and not suggested by either author. The Foley book teaches general principles of computer animation and develops tools used in computer animations. The present invention teaches a particular type of application of these general animation principles and tools.

The purpose of animated presentations is to display more clearly the rules of the subject. However, in all the applications listed in claim 21, the rules of the subject only dictate the

end states of the animation - not the intermediate states. Therefore a person of ordinary skill would not have found it obvious at the time that introducing fictitious intermediate states of a symbolic representation to produce an animation of symbolic representations, could be used to advantage in teaching and presenting the rules of a subject.

The animation described by Foley and referred to by the office action in the last sentence of item 9, namely "The animation method is essential in producing a more coherent presentation (Foley, p 1059, first full paragraph, next-to-last sentence.)" does not envision the creation of the intermediate representations of symbols to produce an animated smooth transition between end states.

2 (Item 10) Claim 22 was rejected because "Nakayama also discloses a presentation on a computer-controlled display device" but claim 22 is based on claim 21 and the presentation in Nakayama does not envision animation of symbolic representations, with intermediate states not governed by the subject rules. Therefore it is requested that the claim be allowed.

3 (Item 11) Claim 23 was rejected because "Nakayama discloses calculating intermediate abstract representations, between a starting and ending representation" However, the intermediate representations of Nakayama are each a step in the process of solving an equation and so are not parts of the animation process. Whereas claim 23 is based on claim 21 and "said intermediate presentations" refer to those in claim 21 which quite clearly describe these (non-rule based) intermediate representations which are used to create the animations. Therefore it is requested that the claim be allowed.

4 (Item 12) Claim 26 was rejected because "Nakayama discloses means for accepting and responding to user input." However, claim 26 is based on claim 21 and means for accepting input in a system that displays the animated symbolic representations were not envisioned

by Nakayama. Therefore it is requested that the claim be allowed.

5 (Item 13) Claim 27 is rejected because Nakayama "discloses means for changing said display in response to said user input." Claim 27 is based on claim 26 and thereby based on claim 21. Nakayama describes means for changing said display but did not envision the display of the animation of symbols as described in claim 21. Therefore it is requested that the claim be allowed.

6 (Items 14) In view of the foregoing, it is requested that claims 21-23, 26-27, 31-33 and 36-37 be allowed.

7 (Items 15, 16) Claim 24 is rejected in view of Nakayama who "further discloses a means for (a) moving of a symbol or symbols along a prescribed path (col 9, ll 23-27); (b) changing of said symbol or symbols to other symbol or symbols (left shift key 3h, FIG 1);" Nakayama teaches the moving of a cursor and does not envision the moving of the equation symbols in a continuously animated process as described in claim 21. Similarly in Nakayama the "changing of symbol or symbols" and "causing said symbols to fade in and out" does not envision the changing of these symbols in the process of animation as claim 21 explains. Further, the multiple symbols typed using the Weinreich's keyboard are not a presentation feature, and are not a splitting of symbols feature as such, but rather a multiple symbol entry feature. In addition, Weinreich did not envision the splitting of display symbols in the process of animation as described in claim 21.

8 (Item 17) The repeating of symbols using a keyboard is not the subject of claim 24, which claims various animation types. Animation was not envisioned by Weinreich and in particular the animation of symbolic representations as described in claim 21 was not envisioned in any of the cited works, therefore it would not be obvious to a person with ordinary skill in

the art at the time this invention was made to use the splitting of symbols into two copies in the process of animation.

9 (Item 18, 19) Claim 34 is rejected using the same rationale used in rejecting claim 21. The argument for allowance of claim 34 uses the rationale introduced when arguing for claim 21, as claim 34 only adds the restriction of "use in teaching of said transformation rules."

10 (Items 20, 21, 22, 23) Claims 25, 28-30, 35 and 38-40 were rejected under U.S.C. 103(a) as being unpatentable by Nakayama in view of Foley and further in view of Tseng. As previously pointed out, neither Nakayama nor Foley envision animating symbolic representations as described in claim 21 (amended). Tseng discloses a music and arithmetic machine, but also does not envision the display of *animated* symbolic representations. In view of the foregoing, it is requested that claims 25, 28-30, 35 and 38-40 be allowed.

Applicant submits that this case is now in condition for allowance. Therefore, applicant respectfully requests reconsideration and re-examination of the present application and allowance of the case at an early date.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I certify that on the date below I will fax this communication consisting of 9 pages plus cover sheet to Group 2671 of the Patent and Trademark Office at the following number: (703) 872-9314

Date: September 13, 2001

Inventor's Signature

Jerzy Lewak